

REQUEST FOR WAIVER

Background

The County of Monterey has provided communications for its public safety departments since the late 1930's. At that time it was customary to build systems in a duplex mode with a main transmitter operating just above the broadcast band on 1674 kHz. Some of the mobile units had a receiver only but others could talk back on an AM radio operating on 35.220 MHz. As the state of the art advanced the system gradually migrated to the VHF High Band with FM stations and mobiles. This took place circa 1946. In Monterey County this new system was operated in the Mobile Relay mode with a single mountain top transmitter/receiver.

There was no standard pairing of frequencies until the 450/460 MHz band was developed. At this time, the desirability of pairing well separated frequencies was apparent and initiated in this portion of the spectrum. Nothing was done by the Commission to attempt to pair these frequencies in the VHF High Band and Mobile Relay systems were developed by various users in a random pattern. In fact, in many instances it appeared desirable to pair the frequencies as close together as possible so the mobile units could be operated in the "talk around" mode as simplex on the output side of the repeater.

As usage of VHF High Band increased and Public Safety spectrum was gradually expanded, no serious attempt was ever made to correct this undesirable situation in VHF. The State of California decided they would place the mobile transmitters on the high side of the band and the High Level repeater station transmitters on the low side but with no standardized pairing. Ultimately some commercial channels were developed in the VHF High Band with paired channels, but nothing has ever been attempted to standardize pairs in the Public Safety VHF High Band spectrum as listed in Part 90 of the Rules.

This lack of pairing has resulted in an extremely disorganized development of Public Safety VHF High Band systems. This condition has been exacerbated by certain actions of the Commission. Although the Commission has attempted to control assignment by the use of Frequency Coordinators, they have not provided the tools necessary. The ULS system does not license receivers and unless the Coordinators keep very good records there is often an attempt to recommend a talk out frequency at a high level site that is used by another agency as an input either near by or some distance removed. In Northern California interference paths of well over a hundred miles may occur due to the high elevation sites used to provide necessary communications.

Recently the Commission has designated many of the frequencies in the high end of the VHF High Band spectrum as Mobile only and to relegate base stations to secondary status. Monterey County, in common with a number of agencies in Northern California, has heritage systems using the high end of the band for a repeater output. This poses a problem that must be addressed. There is an acute shortage of available VHF High Band channels in Northern California as well as a number of other areas. Monterey County is attempting at this time to change their systems by inverting their existing frequencies used in the mobile relay mode to the configuration used in a majority of systems in this portion of the spectrum. This will be with mobiles transmitting on the high side and receiving on the low side of repeater pairs. Even though there is no standard pairing there will be some over all improvement in compatibility at shared sites and better re-use of frequencies at high elevations. In Northern California, and quite probably in other areas, APCO Local Advisors are encouraging this practice for new systems, and to the degree possible in other instances.

Monterey County Systems

Monterey County has always been at the leading edge of development in public safety communications.. The County consists of over 3500 square miles of terrain, rising from sea level over 4000 feet in altitude. There are many canyons in the two mountain ranges that border the county on the east and west sides. This rugged topography and the vast area within Monterey County presents a challenge to developing effective public safety communication systems. It virtually dictates the use of the VHF High Band spectrum and

many radio sites. In the Sheriff's system alone there are five high level sites operating at high power. The systems also use a number of voting receivers at other locations to provide adequate coverage. The systems for other departments and agencies in the County follow the same pattern. In general, these systems started out many years ago with the transmitter in Mobile Relay stations operating on the high side of the band and the receivers on the low side. Obviously, as multiple systems were created and additional radio sites were developed, they had to follow a similar pattern for compatibility, interoperability, and for effective operation.

Over the years Monterey County has developed an extremely effective Public Safety Communication System that serves virtually all of the 11 cities and numerous districts within the County. A Consolidated Dispatch Center serves as a single PSAP for the entire County. This was developed in the late 1970's and was reputed to be the first wide area consolidated 9-1-1 system in the nation.

Ultimate Goal

The users have agreed to fully support the changes mandated by narrow banding, and also the program to rearrange the frequencies in a more compatible fashion. This will be a complex and lengthy process.

This will necessitate the replacement of a majority of the infrastructure and the mobile and portable units. The final product will be a trunked Project 25 system with an analog overlay serving remote areas and enhancing interoperability. As stated, it is proposed to invert several of the mobile relay frequencies. Obviously, the transition will be very difficult but is deemed necessary. Recent actions by the Commission to designate certain VHF High Band channels for Interoperability and to designate others as Mobile only has made this process much more difficult and has increased the need to avoid vital transmitters being placed in a secondary status.

The end result in this effort by Monterey County will be better protection against interference and avoid having critical high level sites designated as Secondary and subject to being closed down. It will also facilitate improving antenna combining systems at shared sites with others now operating in a reversed assignment of frequencies.

Action Plan

It is recognized that the re-licensing should be done immediately and without detriment to the existing systems. This process must be protected from the necessity to lower power due to losing the grandfathered Safe Harbor exemptions. This is imperative, as engineering studies and preliminary testing have shown there will be a considerable signal loss as the result of narrow banding.

Proposal

The retired Director of Monterey County Communications, Art McDole, is assisting the county on a voluntary basis with this transition. He also serves as an APCO Frequency Advisor for Northern California. He has been in close touch with the FCC licensing branch and has received assurance that they will be as lenient as possible as they respond to these applications for license modification. They are also aware that there are no viable options to approach a solution to this problem.

The County is submitting 601 Forms to modify a number of the Mobile Relay Systems. They have already modified all of their licenses to add narrow band designators to licenses that do not propose a frequency change.

The Forms as submitted for modification contain identical information to that on the present licenses regarding, power, antenna parameters etc. as well as retaining all other existing information. At first glance this will appear strange, but is necessary to facilitate the difficult transition.

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Obviously, the migration must proceed in an extremely well planned, executed and phased fashion. As the process proceeds the portions that are no longer pertinent will be deleted. A few slight modifications to correct coordinates are being made after a complete system examination using GPS was made. The new equipment will allow all agencies to program many more channels in the mobiles and portables and the number will be increased accordingly.

Monterey County respectfully requests the Commission to approve these licenses requests as submitted. This will include retaining the existing Call Signs and honoring certain existing grandfathered exceptions to Safe Harbor power limitations; at some of the high level sites. The rugged topography and the size of the area of operation virtually mandates the existing levels of ERP. **If this action necessitates a waiver request regarding Rules Section 90. 205 (d) please consider this submission as such.**

Every possible effort will be made to complete the entire process within the time element as specified in the Rules but if any unforeseen delay occurs the County will request a Special Temporary Authorization to extend installation time.

Respectfully Submitted,